

2007 NYS IPM Program Staff Project Implementation Report

Title: Use of the “Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production” Website

Project Leader: Curtis Petzoldt NYS-IPM Program, NYSAES, Cornell University, Geneva, NY 14456; 315 787-2206; cp13@cornell.edu.

Abstract:

An analysis of contacts to the “Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production” website from 1999 through 2007 indicates that the website is widely used by extension and university staff as well as private sector stakeholders. In 2007 the website averaged 21,787 hits per month from 3,088 different computers. Usage has steadily increased since the website was launched in May of 1999 and the data indicates that the website is an important source of crop and pest management information.

Background and Justification:

In 1997 C. Petzoldt, M. Hoffmann and S. Reiners received funding from the Northeast IPM Grant Program to “to accomplish a major revision of the Cornell University Pest Management Recommendations for Vegetable and Potato Production in order to have the document include alternatives to pesticides as well as pesticide information, cultural practices, fertility practices, and variety information.we propose to load the revised document onto the World Wide Web.....”. By early 1999, the major revisions were complete and the revised hard copy document entitled “Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production” and known as “the Guidelines” was published. In May of 1999 the web version of the document became available on line at <http://www.nysaes.cornell.edu/recommends/> hosted by the NYSAES Geneva Computer Center server. The web version of the Guidelines contained all of the information in the hardcopy version, plus live links to resource information such as pest forecasts, pest, natural enemy, and cover crop fact sheets, weed identification guides, weather information, the Cornell Plant Disease Clinic, Veg MD Online, pesticide labels, MSDS sheets, and the Environmental Impact Quotient. Resource links were made to information within and outside of the Cornell information database. Since that time, Petzoldt has annually updated the website to match the hardcopy Guidelines and regularly added and updated resource links to the site.

NYSAES Geneva Computer Center licenses a web use analysis program called Analog (Turner 1995) and it makes available to users of its server. The Computer Center also makes the logfiles of the server available for analysis by Analog for a 1-year period. Keeping in mind certain caveats described in the Analog documentation the software can be used to generally track usage of the Guidelines web pages. Among the statistics that Analog tracks are “successful requests”, “distinct hosts served”, and the number of requests from various “domains” represented by the last 2 or 3 letters of the requesting computer (i.e. .edu, .com, .org etc.).

For the purposes of this report it is important to understand the caveats of the “successful requests” term for Analog. Because some Internet Service Providers (ISP) “cache” or store a

version of a website on their own server if it remains unchanged and allow requests or “hits” to be made from that cache, Analog’s count of successful requests may *underestimate* the number of times a page is actually viewed. However, because some ISPs log a download for each graphic on a page (meaning a page with 10 graphics gets counted 11 times for one download) Analog’s count may *overestimate* the number of requests. In the case of the Guidelines, because of the limitations of many users’ ISP connections, we have greatly limited the use of graphics in the document – therefore this underestimation may not be occurring often for the Guidelines. In any case “Successful requests” or “hits” are only an estimate of activity – and for the Guidelines document are more likely to be an underestimate. “Distinct hosts served” is the count of the number of computers that contacted the NYSAES server to download the Guidelines.

Procedures:

The data in this report were collected from 1999 through 2007 on a monthly basis using the Analog program to analyze the logfiles of the NYSAES Computer Center server for contacts made to the Guidelines pages. From May 1999 through November 1999, Analog was successfully run monthly on the logfiles. Between December 1999 and October 2001, data was successfully collected for only 1 month (February 2000). Information for 23 months during this time is missing. From November 2001 through November 2007 data was successfully collected on a monthly basis. In the successful analysis months, Analog reports were copied and pasted into MS Word files and saved. Selected data points were taken from these files and entered into an Excel spreadsheet from which plots were generated.

Data selected for presentation in this report include:

“Successful requests” or “Hits” – an estimate (with caveats above) of webpages downloaded

“Distinct hosts served” – the actual number of computers requesting Guidelines pages from the NYSAES server in a given month

“Domain” – a general indication of “location” of computers downloading the Guidelines

Results and Discussion:

Between May 1999 when the Vegetable Guidelines website became available and December of 2007 available data show that 1,530,929 “hits” were received. The last month (November 1999) before the missing data period, the site received 5,276 “hits” and when data was again available in December 2001 9,415 “hits” were received. Averaging these two months would result in 7,346 “hits”. Assuming the 23 missing months received this average, we can estimate an additional 168,946 “hits” during this time for a total of 1,699,876 “hits” to the website over the 9 growing seasons the site has been available. Figure 1 is a plot of the monthly totals of “hits” received. Figure 2 is the monthly total of “distinct hosts served” by the server for guidelines webpages. The fewest “hits” in a month was 193 in May 1999 (the first month of service); the largest number in a month was 30,134 in May 2006. As would be expected there is an annual cycle of activity with use generally higher in April through August and lower from September through March – coinciding with New York’s vegetable growing season.

Table 1 shows the source of “hits” to the site as indicated by the domain name suffix of computer addresses contacting the site. Early in the history of the site contacts were predominantly from “.edu” computers indicating that most “hits” (75.02%) were coming from university and extension computers. In 2007, however, “.edu” hits were only 6.92% while “.com” and “.net”

suffixes represented 71.85% of “hits”. The “.com” and “.net” suffixes would frequently be associated with the internet service providers for farmers, consultants, and others in the private sector. This indicates that over time the site has evolved from being a resource for extension and faculty staff to one that is widely used by stakeholder clientele.

Pest and crop information pertinent to vegetables, potatoes, and dry beans is on the Vegetable Guidelines website. The 2002 Census of Agriculture (USDA 2002a, 2002b) indicates that there are 3,473 vegetable (2,637), potato (530), and dry bean (306) farms in New York. In 2007 the number of “distinct hosts served” by the website averaged 3088 per month or 88.9% of the number of the farms. While there is no way to trace “distinct hosts” to actual farms and the number of “distinct hosts” reflects contacts from outside of New York and from perhaps 100-200 university, extension, and agricultural industry professionals in the state, it is reasonable to conclude that there are numerous contacts each month to the Guidelines site being made from computers on New York vegetable farms.

Figures 1 & 2 show that there has been a steady increase in access to electronic Vegetable Guidelines over time with the exception of 2007 when there was a modest downturn in use. This downturn can be explained by a delay in posting the 2007 updates until June 2007 as a result of complications from transitioning the Guidelines publication process. We anticipate updates will be made in January 2008 for the 2008 version.

Figure 1:

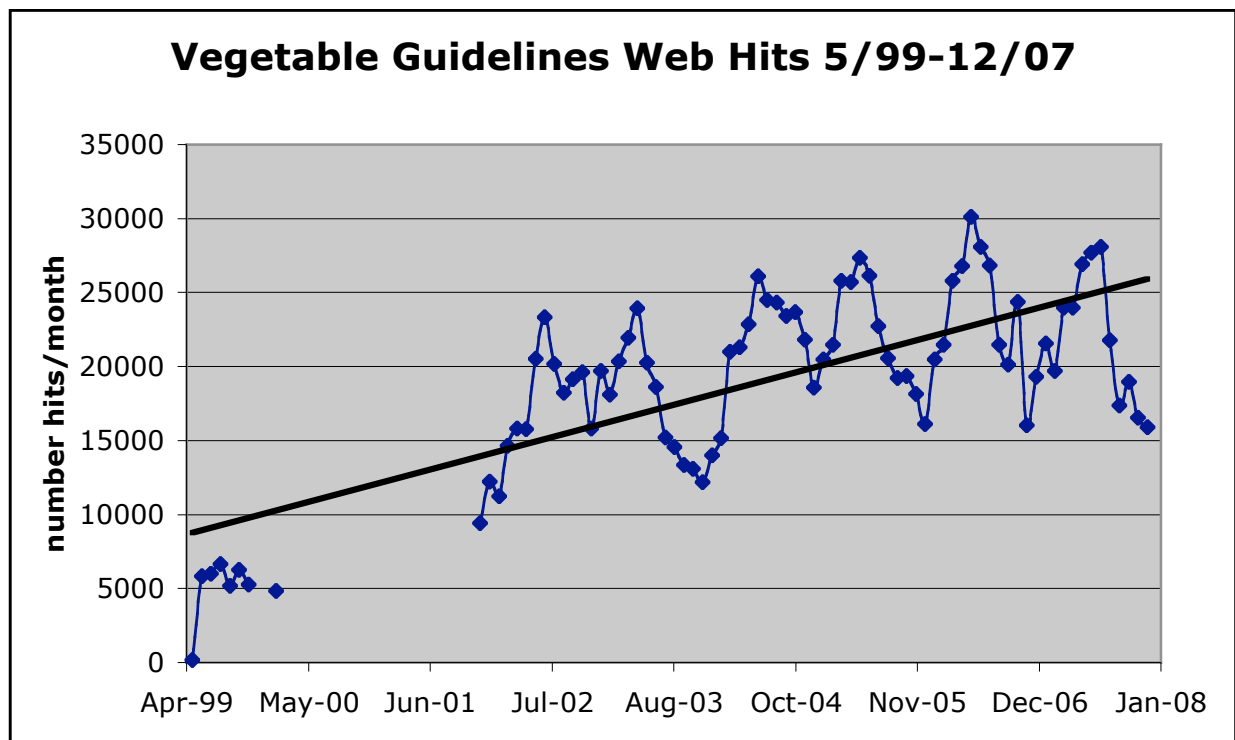


Figure 2:

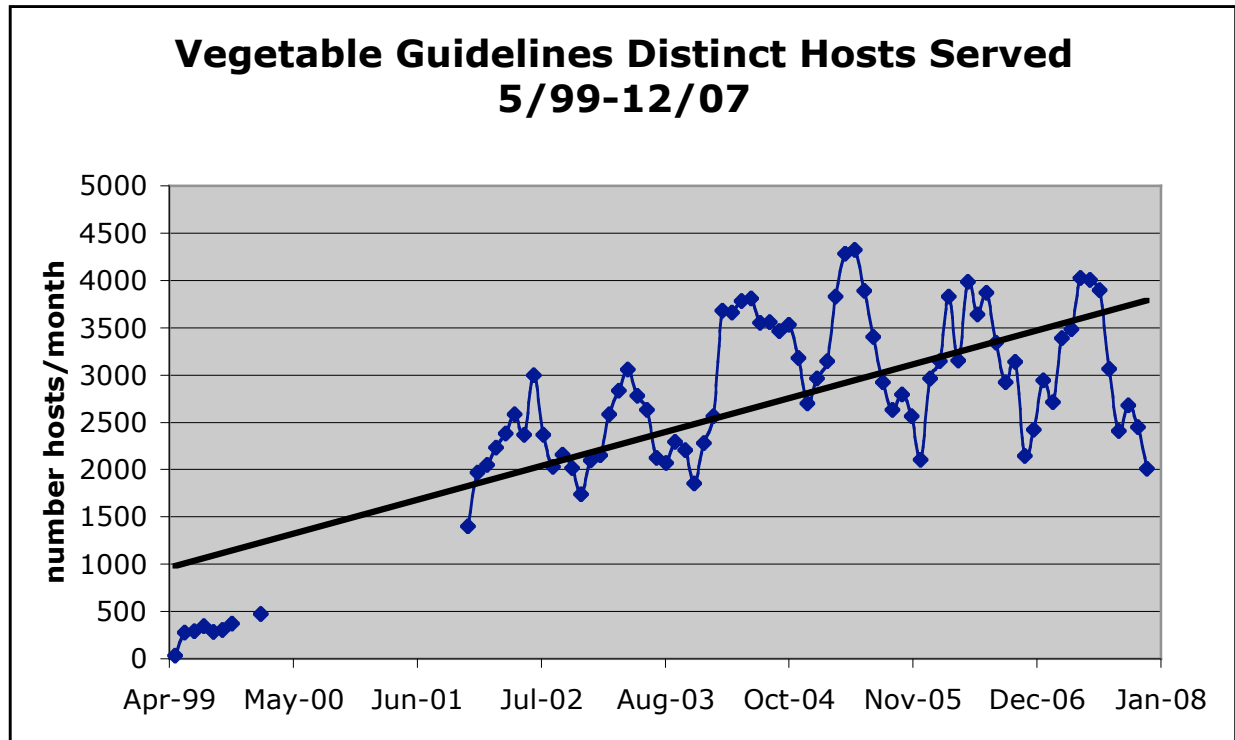


Table 1: Sources of hits to Vegetable Guidelines website.

	November 1999	2007 Monthly Average
Number of hits	5,276	21,877
% hits from “.edu” domain names	75.02	6.92
% hits from “.com” plus “.net” domain names	26.31	71.85

References:

Turner, Stephen R. E. 1995. Analog (c). Statistical Laboratory, 16 Mill Lane, Cambridge, England, sret1@cam.ac.uk . <http://www.nysaes.cornell.edu/server/analog/docs/meaning.html>

USDA. 2002a. Census of Agriculture. Table 34. Specified Crops by Acres Harvested: 2002 and 1997. http://www.nass.usda.gov/census/census02/volume1/ny/st36_1_034_034.pdf

USDA. 2002b. Census of Agriculture Table 35. Vegetables and melons harvested for sale: 2002 and 1997. http://www.nass.usda.gov/census/census02/volume1/ny/st36_1_035_035.pdf